

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

BAKER HUGHES OILFIELD OPERATIONS, LLC,
Appellant

v.

**ANDREW HIRSHFELD, PERFORMING THE
FUNCTIONS AND DUTIES OF THE UNDER
SECRETARY OF COMMERCE FOR
INTELLECTUAL PROPERTY AND DIRECTOR OF
THE UNITED STATES PATENT AND TRADEMARK
OFFICE,**
Intervenor

2020-1932

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in No. IPR2019-
00158.

Decided: September 16, 2021

KYRIE CAMERON, Patterson & Sheridan LLP, Houston,
TX, argued for appellant. Also represented by JOHN
HANSON BARR, JR.

PETER J. AYERS, Office of the Solicitor, United States

Patent and Trademark Office, Alexandria, VA, argued for intervenor. Also represented by THOMAS W. KRAUSE, WILLIAM LAMARCA, FARHEENA YASMEEN RASHEED.

Before MOORE, *Chief Judge*, PROST and STOLL, *Circuit Judges*.

MOORE, *Chief Judge*.

Baker Hughes Oilfield Operations, LLC (Baker), appeals a Patent Trial and Appeal Board final written decision finding claims 1 and 7–23 of U.S. Patent No. 9,080,439 were anticipated and holding claims 1–23 would have been obvious. *Innovex Downhole Sols., Inc. v. Baker Hughes Oilfield Operations, LLC*, No. IPR2019-00158, 2020 WL 1862460 (P.T.A.B. Apr. 13, 2020) (*Board Decision*). We affirm-in-part, vacate-in-part, and remand for further proceedings.

I

The '439 patent relates to a system for plugging a borehole in an oil or gas well. The system comprises a deformable member and a tool operatively arranged to deform the deformable member. '439 patent at Abstract. The tool includes a disintegrable material so that it can later be cleared from the flow path without the need for time-consuming and costly retrieval operations. *Id.* at 2:46–3:6. The patent's written description states that the tool "could be any suitable tool or take any suitable form, e.g., a wedge, swage, shoulder, cone, ramp, mandrel, etc." *Id.* at 2:26–30. Figure 1 below depicts an embodiment in which the tool 102 is a plug:

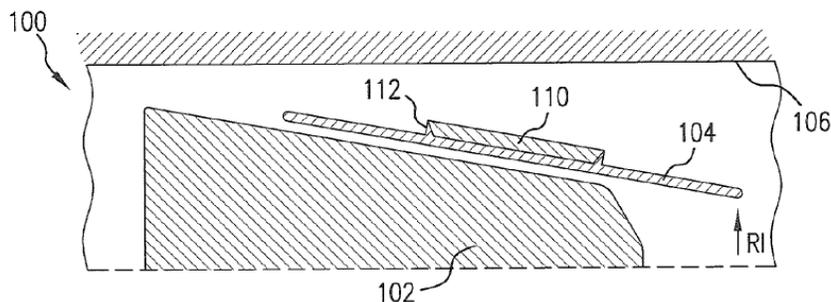


FIG. 1

Claim 1 recites:

1. A deformation system, comprising:

a deformable member having a first set of dimensions; and

a tool within the deformable member having at least a portion thereof operatively arranged to impart a deforming force to the deformable member in order to deform the member from the first set of dimensions at which the deformable member is positionable with respect to a structure to a second set of dimensions at which the deformable member engages with the structure, wherein at least the portion of the tool that imparts the deforming force at least partially comprises a disintegrable material responsive to a selected fluid.

Innovex Downhole Solutions, Inc. (Innovex), petitioned for *inter partes* review (IPR) of claims 1–23 of the '439 patent. The Board instituted IPR, found claims 1 and 7–23 were anticipated by both U.S. Patent No. 5,709,269 (Head) and U.S. Patent No. 7,168,494 (Starr), and held claims 1–23 would have been obvious over various combinations of Head, U.S. Patent Pub. No. 2010/0139911 (Stout), U.S. Patent Pub. No. 2011/0132143 (Xu), and U.S. Patent Pub.

No. 2010/0294510 (Holmes). Baker appealed. Having settled with Baker, Innovex withdrew from the appeal. The Director intervened. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

II

The only issue Baker raises regarding the Board’s anticipation finding is whether the Board erred in construing the claim term “tool.” The Board construed this term as a means-plus-function limitation and held that the corresponding structure is “any suitable setting tool, a wedge, a swage, a shoulder, a cone, a ramp, a mandrel, a plug, and a dart.” *Board Decision*, 2020 WL 1862460, at *13. In the alternative, the Board held that even if “tool” were not a means-plus-function limitation, it would cover the same structures. *Id.* at *14. The patent’s written description supports the Board’s alternative construction. It states that “tool 102 could be any suitable setting tool or take any suitable form, e.g., a wedge, swage, shoulder, cone, ramp, mandrel, etc.” ’439 patent at 2:26–30. It further states that tool 102 can be “a plug or dart.” *Id.* at 2:34–37. Baker’s argument that those structures are mere components of tools, rather than tools themselves, is not persuasive. Because we discern no error in the Board’s alternative construction, we affirm its determination that claims 1 and 7–23 were anticipated, and we do not reach whether “tool” is a means-plus-function limitation.

III

Baker next argues that the Board violated the Administrative Procedure Act (APA) by changing its position regarding obviousness without providing Baker reasonable notice and an opportunity to respond. We review de novo whether the Board’s procedures satisfy the APA, and we set aside Board decisions that are “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” *Sirona Dental Sys. GmbH v. Institut Straumann AG*, 892 F.3d 1349, 1352 (Fed. Cir. 2018) (quoting 5 U.S.C.

§ 706). The APA prohibits the Board from changing theories midstream without giving reasonable notice of the change and an opportunity to present argument and evidence addressing the new theory. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1080 (Fed. Cir. 2015). Because the Board violated this principle, we vacate the Board's obviousness determination as to claims 2–6.¹

Innovex's IPR petition purported to assert three grounds of invalidity. In Grounds 1 and 2, Innovex argued claims 1 and 7–23 were anticipated by Head and Starr, respectively. J.A. 148–49. In Ground 3, Innovex argued claims 1–23 would have been obvious over any one of six distinct combinations of prior art: (1) Head in view of Xu, (2) Head in view of Holmes, (3) Starr in view of Xu, (4) Starr in view of Holmes, (5) Stout in view of Xu, and (6) Stout in view of Holmes. *Id.* Rather than analyze each proposed combination separately, however, the petition wove together its arguments and evidence for all six combinations. *See, e.g.*, J.A. 206 (“[A skilled artisan] would have a reasonable expectation of successfully fitting the teachings of Head/Starr/Stout and Xu/Holmes together like pieces of a puzzle.” (internal quotation marks omitted)).

In its decision to institute IPR, the Board reasoned that Innovex showed a reasonable likelihood of success on Grounds 1 and 2. *Innovex Downhole Sols., Inc. v. Baker Hughes Oilfield Operations, LLC*, No. IPR2019-00158, 2019 WL 1749214, at *10, *13 (P.T.A.B. Apr. 15, 2019) (*Institution Decision*). Regarding Ground 3, however, which the Board construed as six separate grounds, the Board made clear it was instituting solely because “an *inter partes* review may not institute on less than all claims challenged in the petition.” *Id.* at *14 n.5 (citing *SAS Inst., Inc. v.*

¹ Having affirmed the Board's decision finding that claims 1 and 7–23 were anticipated, we do not reach the Board's obviousness determination as to those claims.

Iancu, 138 S. Ct. 1348, 1359–60 (2018)). The Board explained that, by muddling those grounds together, Innovex failed to “address with specificity any particular one of the six combinations of references it proposes.” *Id.* at *14. For example, the Board stated it was unclear “how the teachings of each particular combination [of] references . . . are mapped to the tool limitation.” *Id.* at *13. The Board further explained that “Petitioner lumps its arguments together without clearly indicating why one of skill in the art would modify one particular reference based on the teachings of another particular reference.” *Id.* Accordingly, the Board stated it would not “sift through [Innovex’s] arguments and evidence in order to piece together its best arguments for each of its proposed combinations of references.” *Id.* at *14.

But in its final written decision, the Board did just that. It devoted forty pages—the majority of its analysis—to parsing the different theories that Innovex confusingly lumped together in Ground 3. *Board Decision*, 2020 WL 1862460, at *32–49. The Board explained it “was able to discern Petitioner’s obviousness arguments, even if the Petition was less focused than desirable.” *Id.* at *33.

We hold that the Board’s conduct violated the APA. Despite instituting on Ground 3, the Board unequivocally stated it would not “sift through [Innovex’s] arguments and evidence in order to piece together its best arguments for each of its proposed combinations of references.” *Institution Decision*, 2019 WL 1749214, at *14; *see also id.* at *14 n.5 (noting obligation under *SAS* to consider all challenges in the petition). Under the circumstances, it was reasonable for Baker to rely on the Board’s initial position. Otherwise, in its Patent Owner Response, Baker would need to use its allotted pages to rummage through Innovex’s petition “to divine an obviousness theory.” J.A. 528. Baker’s sur-reply explains that Innovex’s attempt to detail its various obviousness combinations in its reply “comes too late to rectify the initial lack of particularity.” J.A. 647.

Moreover, in its sur-reply, Baker could not have offered new evidence on the new theories. 37 C.F.R. 42.23(b) (“A sur-reply . . . may not be accompanied by new evidence other than deposition transcripts of the cross-examination of any reply witness.”). Baker expressly requested an opportunity to address those theories and adduce new evidence if the Board were inclined, contrary to its statements in the Institution Decision, to “sift through” the arguments and evidence in Ground 3. J.A. 649; *Institution Decision*, 2019 WL 1749214, at *14.² The Board ignored Baker’s request and, without prior notice, did what it said it would not do, i.e., untangle the six separate obviousness theories wound together in Ground 3. Although the Board did institute on Ground 3, as SAS required, given its statements in the Institution Decision, it needed to provide Baker reasonable notice of its changed position. *See Belden*, 805 F.3d at 1080. Because the Board failed to do so, it violated the APA.

The Director argues that Baker had notice of the six obviousness combinations jumbled together in Ground 3. The question, however, is not whether Baker had notice of those combinations; it is instead whether Baker had notice that the Board would delve into their substance after stating it would not. Under these unusual circumstances, the Board needed to provide adequate notice and an opportunity for the submission of evidence regarding

² Baker repeated this request at oral argument before us. Oral Arg. at 33:10–30, 34:05–36, *available at* http://oralarguments.cafc.uscourts.gov/default.aspx?fl=20-1932_09012021.mp3 (“We would’ve liked the opportunity to have our expert offer opinions about those particular new mappings that were offered by the petitioner and any other evidence. There’s definitely a lot of evidence in the art that may have shown why these combinations were not susceptible to being combined . . .”).

obviousness. Accordingly, we vacate the Board's decision holding claims 1–23 would have been obvious.³

IV

Because the Board did not err in construing the claim term “tool,” we affirm its decision finding that claims 1 and 7–23 of the '439 patent were anticipated. But because the Board violated the APA in holding claims 2–6 would have been obvious, we vacate that obviousness determination. On remand, the Board must afford Baker an opportunity to present additional arguments and evidence responding to the obviousness theories on which the Board relied.

AFFIRMED-IN-PART, VACATED-IN-PART, AND REMANDED

COSTS

No costs.

³ We do not determine, at this stage, whether Innovex's petition identified with particularity the evidence supporting the obviousness combinations on which the Board relied. *See Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (“It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify with particularity the evidence that supports the grounds for the challenge to each claim.”); *SAS Inst.*, 138 S. Ct. at 1356 (“[T]he petitioner's petition, not the Director's discretion, is supposed to guide the life of the litigation.”).